

Title: County Carnival
Brief Overview:



Students will need to have a previous knowledge of operations with simple fractions, decimals and percents. This unit will review these operations through the use of cooperative learning groups, designed around a carnival theme. At the end of this unit, the students will be able to identify the equivalency of fractions, decimals and percents.



Consider enhancing the activities, keeping with the Carnival theme. Use the Blue Ribbon template for a prize, possibly expanding it to more levels such as a 1st, 2nd, and 3rd place. Hand out tickets as an entrance and/or exit strategy, as a homework pass, or with warm up activities. Stickers can be used as a simple, inexpensive prize at the end of the period. Add a carnival atmosphere to the classroom through decorations, carnival music, etc.



Adjust the unit to the level of your students. Keep the fractions, decimals, and percents to the assessment limits of the state and county expectations. Allow calculators for more difficult conversions, and as an accommodation in any of the activities. If time runs short, consider adjusting some of the activities to run them in two rounds, with the first round non-calculator and the second round calculator.

NCTM Content Standard

NCTM Principles for Mathematics

- **Equity.** Excellence in mathematics education requires equity – high expectations and strong support for all students
- **Curriculum.** A curriculum is more than a collection of activities: it must be coherent, focused on important mathematics, and well articulated across the grades.
- **Teaching.** Effective mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well.
- **Learning.** Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge.
- **Assessment.** Assessment should support the learning of important mathematics and furnish useful information to both teachers and students.
- **Technology.** Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.

NCTM Standards for School Mathematics - instructional programs from kindergarten through grade 12 should enable all students to –

Numbers and Operations

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems
- Understand meanings of operations and how they relate to one another;
- Compute fluently and make reasonable estimates.

Connections

- Recognize and use connections among mathematical ideas;
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- Recognize and apply mathematics in contexts outside of mathematics.

Grade/Level:

Grades 6 – 8

Duration/Length:

Five 40 – minutes class periods (including a final assessment)

Student Outcomes:

Students will:

- reduce simple fractions and apply the four basic operations of addition, subtraction, multiplication and division
- recognize decimals, determine the value of decimals and apply the basic operation of addition and subtraction
- convert equivalent simple fractions, decimals and percents

Materials and Resources:

- Blue Ribbons
- Prizes
- Carnival decorations
- Poster or foam board
- Response boards
- Velcro tape
- Pig Race problems
- Envelopes
- Balloons (need to be large)
- Markers
- Index cards

- Bean bags
- Hula hoops
- Tape
- Tape measure
- Bingo chips
- Bucket
- Worksheets
 - Pig Race Teacher Resource Sheet
 - Pig Race Pigs
 - Pig Race Problems
 - Fraction Extension
 - Decimal Index Cards
 - Decimal Words
 - Decimal Dilemmas (A and B)
 - Bean Bag Toss Student Data and Instruction Sheet
 - Can You Ride It? Student Data and Instruction Sheet
 - Got It Player Cards
 - Got It Student Call Out Control Sheet
 - Student Call Out Cards
 - Who Has – I Do Cards
 - Matching Activity cards
 - Fractions, Decimals, Percents Homework

Development/Procedures:

Lesson 1

Pre–assessment – The teacher will display the following problems to the students:

$$\frac{4}{6} - \frac{1}{2}$$

$$\frac{3}{5} + \frac{2}{10}$$

$$\frac{2}{3} \cdot \frac{3}{5}$$

$$3\frac{1}{2} \cdot \frac{2}{3}$$

$$2\frac{1}{3} \div 3\frac{1}{5}$$

The teacher will facilitate a student-led discussion involving the strategies necessary to solve each of the

above problems regardless of the algorithm. A teacher prompt might be, "In what form do the fractions need to be in order to be solved?" (Students should respond that common denominators are needed when adding and subtracting fractions and mixed numbers need to be converted to improper fractions when multiplying and dividing.)

Launch – The teacher will engage students with a mnemonic song to facilitate the memorization of various strategies.

For adding and subtracting fractions:

(To the tune of Twinkle- Twinkle)

"Adding fractions isn't lame
When your denominators are the same.
Multiply by a form of one and
always reduce when you are done.
Subtracting fractions isn't lame
denominators are the same!"

Teacher Facilitation – The teacher will divide the class into teams and use “Pig Race” to review fraction skills. The teacher should refer to the “Pig Race” teacher resource sheet for preparations that must be done prior to the start of class.

Student Application – Students will work as a team to answer a series of six fraction problems. Upon completion of a round by all teams, students will repeat the procedure twice by answering successively more challenging fraction problems.



Embedded Assessment – Students will receive ongoing assessment through teacher observations. Teacher will determine which, if any, algorithms have been mastered and which are in need of support.

Re-teaching/Extension – Students will be provided with immediate feedback and review based on teacher observations during the pig race. If the teacher determines certain algorithms need support, the teacher should assign “Fraction Extension”.

Lesson 2

Pre-assessment – The teacher will present the following fractions on the front board.

$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{4}{5}$
---------------	---------------	---------------	---------------	---------------

The teacher should make the connection from fractions (previous lesson) to decimals (today's lesson) by reviewing how to translate fractions into decimals.

Launch – Teacher will guide students in the conversion of the Pre-assessment fractions into decimals.

Teacher Facilitation --The teacher will need to make two copies of “Decimal Words.” With the first copy, cut out and paste each strip onto an index card. On the reverse side, cut out and paste the corresponding number form of the decimal. With the second copy, cut out the word strips from “Decimal Words” and distribute one small slip of paper to each student. Each student will fold paper up as small as possible and insert into a balloon. Student now has to blow up balloon and knot it, with paper slip in balloon. If you have a small class, have students repeat the procedure. Allow the class a minute to keep all the balloons in the air, mixing them up, so that each individual student ends up with a different color balloon than the one they blew up.

Student Application – Once each student has a different color balloon than the one they started with, the application of the day begins. The teacher will instruct the students, one at a time, to pop their balloon. The first student to pop their balloon will unfold the paper slip and read the decimal word inside. The student will then be required to write that decimal -- in number form -- on the board. Once the student has written it correctly, the teacher will hand the student the large, pre-printed index card that matches the student's decimal word, which teacher has already prepared. That student then stands on one side of the room, holding the large index card in front of them, to form the beginnings of a decimal number line. One-by-one, each

student will repeat this procedure and stand to the left, right, or in between other students to form a “human” decimal number line. Allow students to correct each other, offering as little teacher assistance as possible.

Embedded Assessment – Students will be evaluated by their ability to identify decimals, convert decimals from written form to number form and to rank decimals in order from smallest to largest. Teacher will assess if this is done correctly.

Re-teaching/Extension – Students will be given homework “Decimal Dilemmas.” There is an additional sheet entitled “Decimal Dilemmas, Supplemental Worksheet.” The supplemental worksheet can be used to reinforce basic decimal addition and subtraction. If time allows during the class period, teacher can also pair students up by decimals (least value with greatest value; 2nd least with 2nd greatest, etc.) and have them add and subtract their two decimals. Students may use the board to perform these operations, so that teacher can assess accuracy.

Lesson 3

Pre-assessment – Teacher will display answers to Lesson 2 Homework worksheets. When completed, the teacher will lead a discussion to ensure understanding of both Lesson 1 Simple Fractions and Lesson 2 Decimals which transitions into Percents. Teacher should demonstrate the equivalence of fraction, decimals and percents.

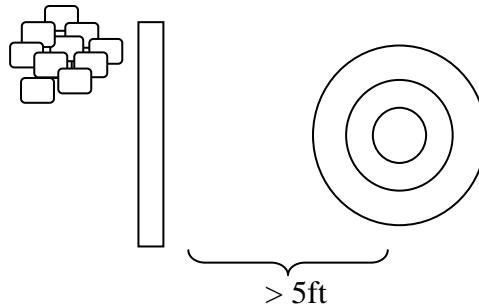
Launch – Students will convert a given number of problems from the homework worksheets into equivalent percent values. The teacher will ask the students to summarize how a decimal is changed into a percent.

Teacher Facilitation – Prior to the start of class, the teacher should set up a three-station activity which will review percents.



Station one is a bean bag toss game, reviewing the conversion of fractions to percent. Three hula hoops should be taped concentrically to the floor, and a tossing line should be taped at least five feet from the circles. Ten bean bags should

be placed at the station. Copies of “Bean Bag Toss Student Data and Instruction Sheet” should be placed at the station.



Station two is a height measuring game to review percentages. The station needs measuring tapes and copies of “Can You Ride It? Student Data and Instruction Sheet.”

Station three is a bingo game, to review the conversion of equivalent fractions to decimals and percents. The teacher will need to place copies of the “Got It Player Cards”, the “Got It Student Call Out Control Sheet”, and bingo chips at the station. The teacher needs to cut out the “Student Call Out Cards”, fold them, and place them in a bucket for the station. The teacher will need to select a student to be the caller for the game.

Student Application – The class should be divided into three groups, and work as a group to complete each station. Students will use the skills they have been reviewing to be successful at each station.

Embedded Assessment – Students will be observed through the stations as they work in groups. Success will be determined with teacher observation and the ability to move to the next station in the classroom.

Re-teaching/Extension – Students will be encouraged to take time at home to review the concepts of simple fractions, decimals and percentages and to come in prepared for the use of all three in Lesson 4.

Lesson 4

Pre-assessment – The teacher should prepare the “Who Has – I Do” cards prior to the beginning of class by cutting out the cards. After the cards have been distributed to the students, the students will work out the problem they have in their hands. The first student reads their “Who has” out loud to the group. The student holding the card that has the correct solution responds out loud “I do” and gives the solution. Then this same student reads the “Who has” question on his/her card out loud to the group which continues the process. When the last student reads his/her “Who has” question it should return to the first student’s “I do” and end the activity. This activity will review fractions, decimals and percents as learned through the past three lessons.

Launch – Students will be led through a teacher directed discussion from the pre-assessment activity to combine the first three lessons to see the overall idea of equivalent simple fractions, decimals and percentages.

Teacher Facilitation – Prior to the beginning of the lesson, the teacher will need to prepare the cards for the Matching Activity.



The decimal cards should be copied on one color paper, and the fraction cards should be copied on a different color paper. The cards should then be cut out. To transition into the lesson, the teacher can connect the day’s activity to carnivals by stating, “When you go to a carnival, you would probably like to pick a friend to join you. This would be especially great if you want to go on a scary ride!” The teacher should then distribute the cards, and instruct the students to find the equivalent decimal or fraction that is equivalent to their card. The students should be aware that their matching card will be a different color, and in a different, equivalent numerical form.

Student Application – Students can repeat the matching activity for a second round or teacher can create additional fractions and decimals. After matching, the students will determine the equivalent percent to their decimal. The teacher will need to call on each group to have the students share the equivalent percent.

Embedded Assessment – Students will be observed and evaluated through their success in matching equivalent simple fractions and decimals.

Re-teaching/Extension – Students will be provided with an equivalent chart to complete with missing simple fractions, decimals or percents for homework. The homework “Fractions, Decimals, Percents” will be reviewed during the class or depending on time the following day.

Summative Assessment:

Prior to the assessment, the teacher will need to check the “Fractions, Decimals, Percents” homework from Lesson 4. The teacher should discuss any errors to prepare the students for the Summative Assessment. Students will then take a 25 minute assessment including an equivalent conversion chart with fractions, decimals and percents. In addition to the conversion chart, the carnival theme will conclude with questions including calculations using fractions, decimals and percents. The questions will emphasize the profit aspect of the County Carnival and the use of the profits for charity.

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Pig Race – Teacher Resource Sheet

Race Track Preparation

- Orient a piece of foam board or poster board to the horizontal position.
- Create five equally spaced horizontal lines, leaving approximately two inches clear on either side, as shown below.
- Label the sides with “start” and “finish”.
- Label the first row 1 – 5. Each row will be a separate track for each team.

County Carnival Raceway

FINISH	5		4		3		2		1	START
	*		*		*		*		*	
	*		*		*		*		*	
	*		*		*		*		*	
	*		*		*		*		*	
	*		*		*		*		*	

- Place the bottom piece of Velcro tape at each * on the track.
- Cut out the Pig Race Pigs. Place the top piece of Velcro tape on the back of each pig so that the pigs will stick to the board.
- Label six envelopes with numbers 1 – 6. (There are three rounds of questions available so the class can play three complete races.)
- Download five copies of the pig race problem sheet. Cut out all questions, careful to keep identical numbers together, i.e. you should have five #1, five #2 etc... Each set of questions should be placed in the corresponding envelope.

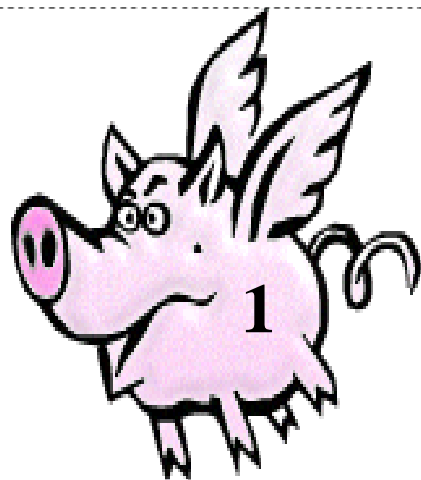
Race Procedures

- Divide students into five heterogeneous groups. Provide each group with a dry erase response board, marker, and eraser.
- Assign each member of the group a role, such as “Pig Handler” and “Recorder”.
- Place the pig race track on the board at the front of the room, and the question envelopes on the opposite wall of the classroom. Place each pig in the start column of the track.

- Instruct students to the following pig race rules:
 - At the start signal the designated “pig handler” from each group must **walk** to envelope one, retrieve one problem from the envelope and return to the group. *Note that all teams will have identical questions to solve.*
 - The group members must individually solve the problem and consult with each other. When the team reaches a final answer, the “designated answer person” **walks** to the teacher for confirmation.
 - If the team’s answer is correct, the pig handler may **walk** to the track to advance their team pig one space. If incorrect, the team must continue working until a correct answer is found.
 - Once successfully answering a question, the question handler then returns the question to the corresponding envelope, and picks the next question.
 - The process is repeated until all questions have been successfully answered in numerical order.
 - The first team who solve the sixth question and advances their pig to the finish line first is the winner!



Pig Race Pigs



Pig Race Problems

Question						
	1	2	3	4	5	6
Round 1	$\frac{5}{6} + \frac{1}{4}$	$\frac{5}{8} + \frac{2}{3}$	$\frac{4}{5} + \frac{5}{7}$	$\frac{4}{3} - \frac{8}{9}$	$\frac{3}{4} - \frac{1}{7}$	$\frac{7}{8} - \frac{5}{6}$
Round 2	$\frac{1}{2} \times \frac{4}{5}$	$\frac{1}{4} \times \frac{2}{3}$	$\frac{4}{5} \times 1\frac{1}{5}$	$5\frac{1}{3} \times 1\frac{1}{8}$	$1\frac{2}{5} \times 2\frac{1}{2}$	$\frac{5}{6} \times 3\frac{3}{5}$
Round 3	$10 - 4\frac{2}{5}$	$2 \div 1\frac{2}{3}$	$5 \div 1\frac{1}{4}$	$\frac{7}{8} \times 2\frac{2}{3}$	$\frac{3}{8} \div \frac{4}{6}$	$1\frac{2}{5} \times \frac{1}{2}$

Pig Race Problem

ANSWER KEY

Question						
	1	2	3	4	5	6
Round 1	$\frac{5}{6} + \frac{1}{4}$ $= \frac{13}{12} = 1\frac{1}{12}$	$\frac{5}{8} + \frac{2}{3}$ $= \frac{31}{24} = 1\frac{7}{24}$	$\frac{4}{5} + \frac{5}{7}$ $= \frac{53}{35} = 1\frac{18}{35}$	$\frac{4}{3} - \frac{8}{9}$ $= \frac{4}{9}$	$\frac{3}{4} - \frac{1}{7}$ $= \frac{17}{28}$	$\frac{7}{8} - \frac{5}{6}$ $= \frac{1}{24}$
Round 2	$\frac{1}{2} \times \frac{4}{5}$ $= \frac{2}{5}$	$\frac{1}{4} \times \frac{2}{3}$ $= \frac{1}{6}$	$\frac{4}{5} \times 1\frac{1}{5}$ $= \frac{24}{25}$	$5\frac{1}{3} \times 1\frac{1}{8}$ $= 6$	$1\frac{2}{5} \times 2\frac{1}{2}$ $= \frac{7}{2} = 3\frac{1}{2}$	$\frac{5}{6} \times 3\frac{3}{5}$ $= 3$
Round 3	$10 - 4\frac{2}{5}$ $= 5\frac{3}{5}$	$2 \div 1\frac{2}{3}$ $= 1\frac{1}{5}$	$5 \div 1\frac{1}{4}$ $= 4$	$\frac{7}{8} \times 2\frac{2}{3}$ $= \frac{7}{3} = 2\frac{1}{3}$	$\frac{3}{8} \div \frac{4}{6}$ $= \frac{9}{16}$	$1\frac{2}{5} \times \frac{1}{2}$ $= \frac{7}{4} = 1\frac{3}{4}$

Fraction Extension

Name: _____

Date: _____

Remember to simplify whenever possible.

Add or subtract:	
a.	$\frac{3}{8} + \frac{4}{8}$
b.	$\frac{4}{8} - \frac{1}{8}$
c.	$\frac{1}{2} + \frac{1}{6}$
d.	$\frac{7}{10} - \frac{1}{2}$
Multiply:	
e.	$\frac{2}{3} \times \frac{3}{4}$
f.	$\frac{2}{3} \times \frac{3}{5}$
g.	$4\frac{1}{4} \times \frac{8}{9}$
h.	$4\frac{1}{3} \times \frac{6}{5}$
i.	$\frac{6}{32} \div \frac{3}{4}$
j.	Describe in words how to subtract the fractions: $\frac{11}{12} - \frac{5}{6}$

Fraction Extension

Name: ____ANSWER KEY____

Date: _____

Remember to simplify whenever possible.

Add or subtract:	
a.	$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$
b.	$\frac{4}{8} - \frac{1}{8} = \frac{3}{8}$
c.	$\frac{1}{2} + \frac{1}{6} = \frac{2}{3}$
d.	$\frac{7}{10} - \frac{1}{2} = \frac{1}{5}$
Multiply:	
e.	$\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$
f.	$\frac{2}{3} \times \frac{3}{5} = \frac{2}{5}$
g.	$4\frac{1}{4} \times \frac{8}{9} = \frac{34}{9} = 3\frac{7}{9}$
h.	$4\frac{1}{3} \times \frac{6}{5} = \frac{26}{5} = 5\frac{1}{5}$
i.	$\frac{6}{32} \div \frac{3}{4} = \frac{9}{32}$
j.	Describe in words how to subtract the fractions: $\frac{11}{12} - \frac{5}{6}$
	Convert $\frac{5}{6}$ to $\frac{10}{12}$ so the fractions have common denominators.
	Subtract the numerators, and leave the denominators the same.
	11 - 10 is 1. So, $\frac{11}{12} - \frac{5}{6} = \frac{11}{12} - \frac{10}{12} = \frac{1}{12}$.

Lesson 2 Decimals for Index Cards – to paste/copy onto large index cards. Give appropriate index card to student after he/she has correctly written in number form the decimal on his/her decimal strip.

0.008	0.002	0.010	0.006
0.099	0.001	0.100	0.098
0.074	0.003	0.077	0.071
0.088	0.033	0.077	0.071
0.066	0.030	0.096	0.036
0.910	0.011	0.921	0.899
0.710	0.004	0.714	0.706
0.555	0.111	0.444	0.666

Decimal Words – for distribution to students to match with Decimal index cards

Eight thousandths	One tenth
Ninety nine thousandths	Seventy seven thousandths
Seventy four thousandths	One hundred twenty one thousandths
Eighty eight thousandths	Ninety six thousandths
Sixty six thousandths	Nine hundred twenty one thousandths
Ninety one hundredths	Seven hundred fourteen thousandths
Seventy one hundredths	Four hundred forty four thousandths
Five hundred fifty five thousandths	Six thousandths
Two thousandths	Ninety eight thousandths
One thousandth	Seventy one thousandths
Three thousandths	Fifty five thousandths
Thirty three thousandths	Thirty six thousandths
Three hundredths	Eight hundred ninety nine thousandths
Four thousandths	Seven hundred six thousandths
One hundred eleven thousandths	Eleven Thousandths
One hundredth	Six hundred sixty six thousandths

Decimal Dilemmas Homework

Name: _____
Date: _____

A number that uses a decimal point is called a decimal. Each digit in a decimal has a **place** and a **value**. Place refers to **where** it is. Value refers to **how much** it is.

Example: In the decimal **0.4862**, what place and value does the 8 have?

Solution: 8 is in the hundredth place – this tells you where it is.
The value of the 8 is 8 hundredths or 0.08 – this tells you how much it is.

Exercise Set A:

Give the place and value of the 3 in each example below.

1)	2.130	2)	2.143	3)	0.300	4)	0.1243
	Place:		Place:		Place:		Place:
	Value:		Value:		Value:		Value:

When you add and subtract decimals rewrite the problem vertically and ALWAYS line up the decimal points.

Example: Add $0.008 + 0.002$

Solution: Rewrite it as:
$$\begin{array}{r} 0.008 \\ + 0.002 \\ \hline \end{array}$$
 Then, add:
$$\begin{array}{r} 0.008 \\ + 0.002 \\ \hline 0.010 \end{array}$$

Exercise Set B:

- Rewrite the following problems vertically. Line up the decimals and find the answer.
- Write your final answer in word form.

5)	$0.008 - 0.006$	12)	$0.066 + 0.030$
6)	$0.099 + 0.001$	13)	$0.066 - 0.030$
7)	$0.099 - 0.001$	14)	$0.910 + 0.011$
8)	$0.074 + 0.003$	15)	$0.910 - 0.011$
9)	$0.074 - 0.003$	16)	$0.710 - 0.004$
10)	$0.088 + 0.033$	17)	$0.555 + 0.111$
11)	$0.088 - 0.033$	18)	$0.555 - 0.111$

Decimal Dilemmas Homework

Name: ANSWER KEY
Date: _____

A number that uses a decimal point is called a decimal. Each digit in a decimal has a **place** and a **value**. Place refers to **where** it is. Value refers to **how much** it is.

Example: In the decimal **0.4862**, what place and value does the 8 have?

Solution: 8 is in the hundredth place – this tells you where it is.
The value of the 8 is 8 hundredths or 0.08 – this tells you how much it is.

Exercise Set A:

Give the place and value of the 3 in each example below.

1)	2.130	2)	2.143	3)	0.300	4)	0.1243
	Place: hundredths		Place: :thousandths		Place: tenths		Place: ten thousandths
	Value: 0.03		Value: 0.003		Value: 0.3		Value: 0.0003

When you add and subtract decimals rewrite the problem vertically and ALWAYS line up the decimal points.

Example: Add $0.008 + 0.002$

0.008

0.008

Solution: Rewrite it as: $\begin{array}{r} + 0.002 \\ \hline \end{array}$

Then, add: $\begin{array}{r} + 0.002 \\ \hline 0.010 \end{array}$

Exercise Set B:

- Rewrite the following problems vertically. Line up the decimals and find the answer.
- Write your final answer in word form.

5)	$0.008 - 0.006 = 0.002$ Two thousandths	12)	$0.066 + 0.030 = 0.096$ Ninety six thousandths
6)	$0.099 + 0.001 = 0.1$ One tenth	13)	$0.066 - 0.030 = 0.036$ Thirty six thousandths
7)	$0.099 - 0.001 = 0.098$ Ninety eight thousandths	14)	$0.910 + 0.011 = 0.921$ Nine hundred twenty one thousandths
8)	$0.074 + 0.003 = 0.077$ Seventy seven thousandths	15)	$0.910 - 0.011 = 0.899$ Eight hundred ninety nine thousandths
9)	$0.074 - 0.003 = 0.071$ Seventy one thousandths	16)	$0.710 - 0.004 = 0.706$ Seven hundred six thousandths
10)	$0.088 + 0.033 = 0.121$ One hundred twenty one thousandths	17)	$0.555 + 0.111 = 0.666$ Six hundred sixty six thousandths
11)	$0.088 - 0.033 = 0.055$ Fifty five thousandths	18)	$0.555 - 0.111 = 0.444$ Four hundred forty four thousandths

Decimal Dilemmas
Supplemental Worksheet

Name: _____
 Date: _____

Directions: Add or Subtract the following decimals:

$\begin{array}{r} 12.5 \\ + 3.068 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ - 15.94 \\ \hline \end{array}$	$\begin{array}{r} 17.75 \\ - 14.068 \\ \hline \end{array}$	$\begin{array}{r} 0.95 \\ - 0.3576 \\ \hline \end{array}$
$\begin{array}{r} 12.05 \\ 3.64 \\ + 0.0095 \\ \hline \end{array}$	$\begin{array}{r} 0.488 \\ + 0.0362 \\ \hline \end{array}$	$\begin{array}{r} 0.04 \\ + 0.658 \\ \hline \end{array}$	$\begin{array}{r} 0.32 \\ 1.05 \\ + 0.561 \\ \hline \end{array}$
$\begin{array}{r} 9.09 \\ - 0.546 \\ \hline \end{array}$	$\begin{array}{r} 0.324 \\ - 0.23 \\ \hline \end{array}$	$\begin{array}{r} 2.5 \\ - 0.4 \\ \hline \end{array}$	$\begin{array}{r} 12.8 \\ + 2.6 \\ \hline \end{array}$
$\begin{array}{r} 4.34 \\ 1.25 \\ + 0.2 \\ \hline \end{array}$	$\begin{array}{r} 19.6 \\ - 0.1 \\ \hline \end{array}$	$\begin{array}{r} 2.37 \\ 0.4 \\ + 2.5 \\ \hline \end{array}$	

Decimal Dilemmas
Supplemental Worksheet

Name: __ANSWER KEY__

Date:

Directions: Add or Subtract the following decimals:

$\begin{array}{r} 12.5 \\ + 3.068 \\ \hline 12.568 \end{array}$	$\begin{array}{r} 17 \\ - 15.94 \\ \hline 1.06 \end{array}$	$\begin{array}{r} 17.75 \\ - 14.068 \\ \hline 3.682 \end{array}$	$\begin{array}{r} 0.95 \\ - 0.3576 \\ \hline 0.5924 \end{array}$
$\begin{array}{r} 12.05 \\ 3.64 \\ + 0.0095 \\ \hline 15.6995 \end{array}$	$\begin{array}{r} 0.488 \\ + 0.0362 \\ \hline 0.5242 \end{array}$	$\begin{array}{r} 0.04 \\ + 0.658 \\ \hline 0.698 \end{array}$	$\begin{array}{r} 0.32 \\ 1.05 \\ + 0.561 \\ \hline 1.931 \end{array}$
$\begin{array}{r} 9.09 \\ - 0.546 \\ \hline 8.544 \end{array}$	$\begin{array}{r} 0.324 \\ - 0.23 \\ \hline 0.094 \end{array}$	$\begin{array}{r} 2.5 \\ - 0.4 \\ \hline 2.1 \end{array}$	$\begin{array}{r} 12.8 \\ + 2.6 \\ \hline 15.4 \end{array}$
$\begin{array}{r} 4.34 \\ 1.25 \\ + 0.2 \\ \hline 5.79 \end{array}$	$\begin{array}{r} 19.6 \\ - 0.1 \\ \hline 19.5 \end{array}$	$\begin{array}{r} 2.37 \\ 0.4 \\ + 2.5 \\ \hline 5.27 \end{array}$	

County Carnival

Bean Bag

Toss



Station

Bean Bag Toss
Student Data and Instruction Sheet:



Welcome to the Bean Bag Toss! Toss the bean bags into the hoops and win a prize!

ROUND ONE: Toss ten bean bags into the hoops. Record your results on your chart.

ROUND TWO: Toss twenty bean bags into the hoops. Record your results on a second chart.

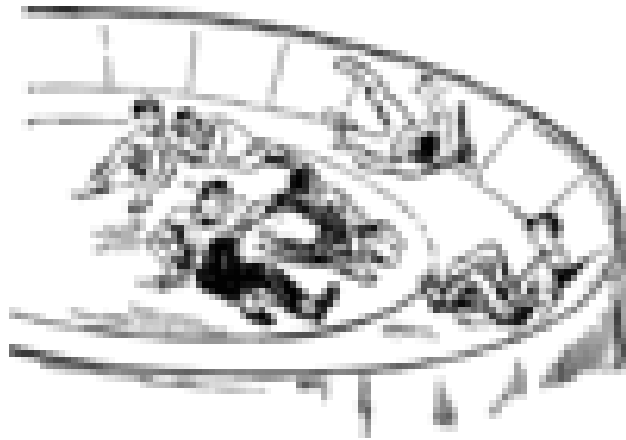
ROUND THREE: Toss thirty bean bags into the hoops. Record your results on a third chart.

Round # _____ Number of Bean Bags Tossed _____

Student Tosses	Round	Enter the number of Bean Bags in each of the indicated circles	Indicate the fraction	Convert the fraction to a Percent
			$\frac{\text{Number of Bags}}{\text{Total Tosses}}$	
Outside Circle	1			
	2			
	3			
Middle Circle	1			
	2			
	3			
"Bull's Eye!" (Inner Circle)	1			
	2			
	3			

County Carnival

Can You Ride It?



Station

Can You Ride It?
Student Data and Instruction Sheet



Welcome to the best rides at the carnival! The question is, can you ride them?

You Must Be At Least This Tall To Ride The Following		
Kiddie Carousel	Risky Roadster	Vomit Comet
150 Cm	160 Cm	165 Cm

Part A:

Use the measuring tape to measure the height, in cm, of each of your group members. Record the heights in the chart below. Check off which rides each member can ride.

Name	Height, cm	Which Rides Can You Ride?		
		Kiddie Carousel	Risky Roadster	Vomit Comet

Part B:

What percentage of your group was eligible to ride each of the rides?

	Kiddie Carousel	Risky Roadster	Vomit Comet
Percentage of the Group			

Coaster Cuisine Menu



Pizza Hotdog	Popcorn Cotton Candy	Lemonade Root Beer
-----------------	-------------------------	-----------------------

Select one item from each section of the above menu for your lunch.

- 1) What number from your group selected pizza? _____
What was the percentage? _____
- 2) What number from your group selected hotdogs? _____
What was the percentage? _____
- 3) What number from your group selected popcorn? _____
What was the percentage? _____
- 4) What number from your group selected cotton candy? _____ What was the percentage? _____
- 5) What number from your group selected lemonade? _____
What was the percentage? _____
- 6) What number from your group selected root beer? _____
What was the percentage? _____
- 7) Eighty out of the two hundred fifty Vomit Comet riders ordered cotton candy. What percent ordered cotton candy? _____
- 8) Fifty percent of those that ate cotton candy got sick after the ride. How many people "lost" their cotton candy? _____

Answer Key

Coaster Cuisine Menu



Pizza Hotdog	Popcorn Cotton Candy	Lemonade Root Beer
-----------------	-------------------------	-----------------------

Select one item from each section of the above menu for your lunch.

- 1) What number from your group selected pizza? _____
What was the percentage? _____
- 2) What number from your group selected hotdogs? _____
What was the percentage? _____
- 3) What number from your group selected popcorn? _____
What was the percentage? _____
- 4) What number from your group selected cotton candy? _____ What was the percentage? _____
- 5) What number from your group selected lemonade? _____
What was the percentage? _____
- 6) What number from your group selected root beer? _____
What was the percentage? _____
- 7) Eighty out of the two hundred fifty Vomit Comet riders ordered cotton candy. What percent ordered cotton candy? **200**
- 8) Fifty percent of those that ate cotton candy got sick after the ride. How many people "lost" their cotton candy? **125**

Got It! Station Label

County Carnival

GOT IT!

Bingo Game



Station

Got It!
Student Call out Cards



$\frac{11}{4}$	$\frac{50}{1000}$	$\frac{2}{5}$	$\frac{7}{2}$	$\frac{7}{100}$
$\frac{75}{100}$	$\frac{45}{50}$	$\frac{17}{10000}$	$\frac{6}{2}$	$\frac{24}{48}$
$2\frac{1}{2}$	$\frac{14}{70}$	0.23	0.003	2.1
0.55	0.11	4	0.06	3.75
0.60	0.29	$\frac{1}{4}$	0.111	Free Space

Got It!
Student Call Out Control Sheet



Directions for the Caller:

- Give each member in your group a Got It! Player card and a handful of bingo chips.
- Pull out one of the folded papers from the bucket. Call out the number that appears on the piece of paper.
- Place the piece of paper on the equivalent percent on the chart below.
- Continue to pull out papers, call out the number, and place it on the chart.
- When someone yells out “GOT IT!”, use the chart to verify their bingo.
- Do not allow students playing the game to see the control sheet and the equivalent percents to the called out fractions and/or decimals.

$\frac{11}{4}$ 275%	$\frac{50}{1000}$ 5%	$\frac{2}{5}$ 40%	$\frac{7}{2}$ 35%	$\frac{7}{100}$ 7%
$\frac{75}{100}$ 75%	$\frac{45}{50}$ 90%	$\frac{17}{10000}$.17%	$\frac{6}{2}$ 300%	$\frac{24}{48}$ 50%
$2\frac{1}{2}$ 250%	$\frac{14}{70}$ 20%	0.23 23%	0.003 0.3%	2.1 210%
0.55 55%	0.11 11%	4 400%	0.06 6 %	3.75 375%
0.60 60%	0.29 29%	$\frac{1}{4}$ 25%	0.111 11.1%	Free Space

Got It! Player Sheets
Page 1 with 2 versions

“GOT IT” PLAYERS CARD



G	O	T	I	T
275 %	5 %	40 %	35 %	7 %
75 %	90 %	0.17 %	300 %	50 %
60%	29 %	FREE SPACE	25 %	11.1 %
250 %	20 %	23 %	0.3 %	210 %
55 %	11 %	400 %	6 %	375 %

“GOT IT” PLAYERS CARD



G	O	T	I	T
5 %	35 %	23 %	50 %	25 %
0.3 %	275 %	75 %	7 %	400 %
300 %	40 %	FREE SPACE	11.1 %	250 %
29 %	0.17 %	60%	90 %	11 %
210 %	20 %	6 %	55 %	375 %

Got It! Player Sheets
Page 2 with 2 versions

“GOT IT” PLAYERS CARD



G	O	T	I	T
55 %	25 %	0.17 %	75 %	300 %
11.1 %	60%	275 %	250 %	90 %
23 %	5 %	FREE SPACE	20 %	0.3 %
6 %	7 %	50 %	35 %	400 %
40 %	11 %	29 %	375 %	210 %

“GOT IT” PLAYERS CARD



G	O	T	I	T
23 %	90 %	20 %	29 %	60%
25 %	400 %	250 %	55 %	5 %
11.1 %	300 %	FREE SPACE	0.17 %	40 %
7 %	50 %	11 %	275 %	75 %
375 %	6 %	210 %	0.3 %	35 %

Got It! Player Sheets
Page 3 with 2 versions

“GOT IT” PLAYERS CARD



G	O	T	I	T
75 %	250 %	60%	11.1 %	11 %
90 %	7 %	35 %	55 %	275 %
50 %	20 %	FREE SPACE	300 %	25 %
0.17 %	210 %	400 %	5 %	29 %
23 %	0.3 %	40 %	6 %	375 %

“GOT IT” PLAYERS CARD



G	O	T	I	T
5 %	55 %	275 %	6 %	7 %
29 %	300 %	20 %	23 %	11.1 %
250 %	75 %	FREE SPACE	25 %	50 %
400 %	0.17 %	90 %	210 %	11 %
375 %	60%	0.3 %	40 %	35 %

Who Has...I Do!

Who has $\frac{1}{2}$ I do $\frac{2}{5}$	Who has $\frac{1}{5}$ I do 2.5 %
Who has 0.30 I do 50 %	Who has $\frac{11}{44}$ I do 20 %
Who has 22 % I do 30 %	Who has 0.04 I do $\frac{1}{4}$
Who has $\frac{3}{100}$ I do 0.22	Who has 0.001 I do $\frac{1}{25}$
Who has 0.025 I do 3 %	Who has thirty two hundredths I do $\frac{1}{1000}$

Who has 200 % I do 0.32	Who has $\frac{2}{7} + \frac{5}{7}$ I do $\frac{3}{4}$
Who has $\frac{3}{5}$ I do 2	Who has 0.235 I do 1
Who has $\frac{7}{100}$ I do 60 %	Who has $\frac{6}{9}$ I do $\frac{235}{1000}$
Who has 4.5 % I do 7 %	Who has 1.2 I do $\frac{2}{3}$
Who has 0.75 I do 0.045	Who has $\frac{200}{500}$ I do $\frac{6}{5}$

Matching Activity
Fraction Cards

$\frac{1}{4}$	$\frac{3}{5}$
$\frac{16}{20}$	$\frac{5}{10}$
$\frac{2}{1000}$	$\frac{37}{100}$
$\frac{60}{80}$	$\frac{13}{1000}$
$\frac{4}{2}$	$\frac{11}{55}$
$\frac{63}{10}$	$\frac{9}{20}$
$\frac{136}{100}$	$\frac{9}{2}$

Matching Activity
Decimal Cards

0.25	0.60
0.8	0.5
0.002	0.37
0.75	0.013
2.0	0.2
6.3	0.18
1.36	4.5

Matching Activity

ANSWER KEY

$\frac{1}{4} = 0.25 = 25\%$	$\frac{3}{5} = 0.60 = 60\%$
$\frac{16}{20} = 0.8 = 80\%$	$\frac{5}{10} = 0.5 = 50\%$
$\frac{2}{1000} = 0.002 = 0.2\%$	$\frac{37}{100} = 0.37 = 37\%$
$\frac{60}{80} = 0.75 = 75\%$	$\frac{13}{1000} = 0.013 = 1.3\%$
$\frac{4}{2} = 2.0 = 200\%$	$\frac{11}{55} = 0.2 = 20\%$
$\frac{63}{10} = 6.3 = 633\%$	$\frac{9}{20} = 0.18 = 18\%$
$\frac{136}{100} = 1.36 = 136\%$	$\frac{9}{2} = 4.5 = 450\%$

Equivalent Fractions, Decimals and Percents
Homework Assignment

Name: _____
Date: _____

Complete the following chart with the missing equivalent simple fraction, decimal or percent. All fractions should be in reduced form. Provide all work used to determine the equivalent values in the space provided.



Problem	Fraction	Decimal	Percent
1	$\frac{15}{25}$		
2		0.35	
3			25 %
4		0.004	
5			250 %
6	$\frac{3}{50}$		
7	$\frac{9}{200}$		
8		2.02	
9			5 %
10			0.5 %



Blue Ribbon Bonus Question: Convert $\frac{2}{3}$ to a decimal and a percent.

Equivalent Fractions, Decimals and Percents
Homework Assignment

Name: ANSWER KEY
Date: _____

Complete the following chart with the missing equivalent simple fraction, decimal or percent. All fractions should be in reduced form. Provide all work used to determine the equivalent values in the space provided.



Problem	Fraction	Decimal	Percent
1	$\frac{15}{25} = \frac{3}{5}$	0.6	60 %
2	$\frac{7}{20}$	0.35	35 %
3	$\frac{1}{4}$	0.25	25 %
4	$\frac{1}{250}$	0.004	0.4 %
5	$\frac{5}{2}$	2.5	250 %
6	$\frac{3}{50}$	0.06	6 %
7	$\frac{9}{200}$	0.045	4.5 %
8	$\frac{101}{50}$	2.02	202 %
9	$\frac{1}{20}$	0.05	5 %
10	$\frac{1}{200}$	0.005	0.5 %



D

Blue Ribbon Bonus Question: Convert $\frac{2}{3}$ to a decimal and a percent.

$$\frac{2}{3} = 0.\overline{666} = 66.\overline{6}\%$$

County Carnival Test

Name: _____

Date _____

Complete the missing equivalent fraction, decimal or percent in the following chart. Provide work for your conversions if needed. All fractions should be in reduced form.



Problem	Fraction	Decimal	Percent
1	$\frac{9}{45}$		
2		0.035	
3			2.3 %
4			140 %
5		Thirty hundredths	

Complete the following questions concerning the data of the carnival success. Be sure to include work for the questions and all fractions should be in reduced form.

6) This year 5000 people attended the County Fair. The entrance fee to the Carnival was free for anyone under the age 10. If 2000 visitors were under the age of 10, what percentage of the visitors could attend the Carnival free?

7) The entrance fee for the County Carnival was \$5. Use the data from exercise 6 to determine how much money was collected in entrance fees?

8) One fourth of the entrance fees will be donated by the County Carnival to the Animal Shelter. Using the results from exercise 7, determine how much money will be donated.

9) The class was earning Blue Ribbons during the County Carnival this week. You were the only one to receive the Blue Ribbon in a group of 5 students. What percent of the group received a Blue Ribbon?



10) Bonus Question: Next year we want to increase the number of visitors to the County Fair by 20 %. How many visitors should we prepare to have at the County Fair?

County Carnival Test

Name: __ANSWER KEY__

Complete the missing equivalent fraction, decimal or percent in the following chart. Provide work for your conversions if needed. All fractions should be in reduced form.



Problem	Fraction	Decimal	Percent
1	$\frac{9}{45} = \frac{1}{5}$	0.2	20 %
2	$\frac{7}{200}$	0.035	3.5 %
3	$\frac{23}{1000}$	0.023	2.3 %
4	$\frac{7}{5}$	1.4	140 %
5	$\frac{3}{10}$	Thirty hundredths = 0.30	30 %

Complete the following questions concerning the data of the carnival success. Be sure to include work for the questions and all fractions should be in reduced form.

6) This year 5000 people attended the County Fair. The entrance fee to the Carnival was free for anyone under the age 10. If 2000 visitors were under the age of 10, what percentage of the visitors could attend the Carnival free? $\frac{2000}{5000} = 40\%$

7) The entrance fee for the County Carnival was \$5. Use the data from exercise 6 to determine how much money was collected in entrance fees? $\$5 \times 3000 = \15000

8) One fourth of the entrance fees will be donated by the County Carnival to the Animal Shelter. Using the results from exercise 7, determine how much money will be donated.

$$\frac{1}{4} = 0.25 \quad 0.25 \times \$15000 = \$3750$$

9) The class was earning Blue Ribbons during the County Carnival this week. You were the only one to receive the Blue Ribbon in a group of 5 students. What

percent of the group received a Blue Ribbon? $\frac{1}{5} = 0.2 = 20\%$



10) Bonus Question: Next year we want to increase the number of visitors to the County Fair by 20 %. How many visitors should we prepare to have at the County Fair?

$$5000 + 20\% \times 5000 = 5000 + 0.20 \times 5000 = 6000$$

Carnival Blue Ribbon Printing Sheet

Teacher Note: This is formatted to allow you to edit, copy, size, etc. You could also purchase sticker paper to print off the computer or purchase actual blue ribbons from a school supply or for the economical choice – your local Dollar Store.

